



Space, Missile, Command, and Control
RANGE PLANNING AND OPERATIONS

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The OPR for this supplement is XOCD (Maj Derek Cossey). This supplement implements and extends the guidance of **Air Force Instruction (AFI) 13-212, Volume 1, *Range Planning and Operations***, 7 Aug 2001, to AFSPC range operations. The AFI is published word-for word without editorial review. **This supplement is new and must be completely reviewed.** The definition of Air Force ranges in AFI 13-212V1 is expanded to include a Space Test and Training Range (STTR). This supplement reflects the establishment, integration, management, and operations of a range for counterspace developers, testers and operators to conduct free-space radiation and other counterspace activities. This supplement provides guidance on roles and responsibilities in the management of the STTR, of the Space Warfare Center (SWC) as the Range Operating Agency (ROA) for the STTR and HQ AFSPC/XO; and provides guidance for STTR responsibilities, safety, equipment, facilities, and security. This supplement applies to all AFSPC units except those associated with the 30th and 45th Space Wing's Space Launch and Test Ranges. This publication applies to the Air National Guard (ANG) and the Air Force Reserve Command (AFRC).

1.2.3. (Added) Space Test and Training Range (STTR). The STTR is a primary training range (PTR), an Electronic Combat Range (ECR) and a test facility. Test and training space for the STTR includes air, land and sea space as well as those areas outside the atmosphere where space operations are conducted. The STTR provides a capability to test developmental and operational space systems and to train space operations crews of all services in a real world environment. This range provides an environment that can be controlled and analyzed to test and train space systems and associated personnel. This environment will be used to validate space operations under valid threat conditions and to support testing, training, and exercising of systems and units individually and within large force exercises. The STTR is initially focused on the counterspace function and will expand as appropriate to other space mission areas in the future.

1.3. **Operations and Range Classifications.** The Space Warfare Center (SWC) is designated as the Range Operating Agency (ROA) for the STTR. The SWC/CC may delegate the ROA responsibilities no lower than the space group commander (SG/CC). SWC/CC shall submit a memorandum that documents

the name and duty title of the ROA within 30 days of designating an ROA other than the SWC/CC to HQ AFSPC/XOC.

1.3.6. (Added) Space Test and Training Range. STTR activities will initially incorporate all aspects of counterspace operations to include space situation awareness, defensive counterspace and offensive counterspace. The infrastructure may include high fidelity threat simulators that threaten friendly space vehicles, satellites emulating adversary use of space, adversary command and control systems, space focused command and control systems, integration of space systems into the existing range infrastructure so the effects of counterspace operations are realized during flying/terrestrial/maritime operations, communications networks, data display/processing capabilities, instrumentation/debrief systems, attack termination systems, and risk hazard analysis.

1.6.4. All requests for waivers/exemptions to AFI 13-212V1 will go from the ROA through HQAFSPC/XOC to HQ USAF/XOO-RA. HQ AFSPC/XOC is the approval authority for ROA requests for waivers/exemptions to AFI 13-212V1_AFSPC SUP 1.

1.7. **Volume Changes.** Send comments and suggested improvements to this supplement on AF Form 847, **Recommendation for Change Publication**, through channels, to HQ AFSPC/XOCD, 150 Vandenberg St. Suite 1105, Peterson AFB, CO 80914-4020.

2.6.12. (Added) HQ AFSPC/XO has oversight responsibility for organizing, training and equipping the STTR.

2.6.12.1. (Added) HQ AFSPC/XO approves all agreements with agencies outside of AFSPC concerning the STTR.

2.6.12.2. (Added) HQ AFSPC/XOC is designated the HQ AFSPC OPR for the STTR. The OPR will perform the following functions.

2.6.12.2.1. (Added) Provide policy and guidance for STTR related issues.

2.6.12.2.1.1. (Added) Identify program security requirements for the STTR.

2.6.12.2.2. (Added) Advocate all STTR Program Objective Memorandum (POM) activities.

2.6.12.2.3. (Added) Negotiate required Memorandum of Understanding (MOU) with other commands for integrated operations on and/or support from their ranges.

2.6.12.2.4. (Added) Coordinate all agreements with agencies outside of AFSPC concerning the STTR.

2.6.12.2.5. (Added) Set priorities for range usage and provide this guidance to the ROA.

2.6.12.2.6. (Added) In conjunction with HQ AFSPC/INX and INF, provide liaison between AFSPC and intelligence agencies for the acquisition and beddown of threat systems, where appropriate. HQ AFSPC/INX and INF will coordinate with intelligence agencies to ensure the proposed threat systems represent valid threats and are appropriate to the planned scenarios. HQ AFSPC/XOC will coordinate and approve requests for Space Range threat equipment and additions to the STTR inventory.

2.6.12.2.7. (Added) HQ AFSPC/XOCD will conduct detailed staff assistance visits to the STTR and its Operating Locations (OL) annually. The purpose of these visits is to facilitate communication between the HQ staff and the ROA. These visits provide an opportunity to identify best practices and share them across the command's OLs. These visits will also provide HQ AFSPC with insight into range operations including range maintenance procedures, scoring, training, environmental status, manning and integration

with terrestrial ranges. They are not “inspections” but rather informative visits, promoting cross-talk and problem solving.

2.6.13. (Added) HQ AFSPC/DRC

2.6.13.1. (Added) Identifies, develops, documents and staffs STTR operational requirements through validation and approval.

2.6.13.2. (Added) Manages the initial STTR acquisition and future modifications, enhancements or upgrades that qualify as acquisition programs as identified in AFI 10-601, ***Mission Needs and Operational Requirements Guidance and Procedures***. Ensure sustainment requirements are addressed IAW AFMAN 23-110, ***USAF Supply Manual***.

2.6.13.3. (Added) Transfers management responsibility to HQ AFSPC/XO when the system becomes operational (at predetermined time or event).

2.6.14. (Added) HQ AFSPC/INX and INF will validate space threat systems before acquisition and deployment at the STTR.

2.7.5.1. Local supplementation is mandatory and shall follow the basic AFI format and be issued in accordance with (IAW) formatting and publishing guidance contained in AFI 33-360V1, ***Publication Management Program***. The contents of the local supplement may be expanded to satisfy the needs of the operating agency. The ROA has 120 days from the issue date of this supplement to develop a local supplement. Local supplements shall be submitted to HQ AFSPC/XOC for review prior to the ROA approval. A copy of the local supplement, along with the basic publication and any higher headquarters supplements, will be maintained by RCO during STTR operations.

2.7.5.2. (Added) The distribution list for the local supplement will include at least the following:

All units expected to use the range on a regular basis:

HQ AFSPC/XOT/XOC/XOO/XOS

HQ SMC/CC/SY

HQ SWC/CC

HQ SWC/Det 1

595 SG/CC

595 SG/OL-AA

17 TS/CC

17 TS/Det 1

14AF/CC/A3

21SW/CC

21OG/CC

1SPCS

4SPCS

76SPCS

50SW/CC

50OG/CC

1SOPS

2SOPS

3SOPS

4SOPS

Space Operations Combined Task Force (SOCTF)/ Multi-mission Space Operation Center (MMSOC)

2.7.7.1. (Added) Mitigation of space debris and interference with satellite operations. The STTR will conform to current U.S. national policy concerning the mitigation of space debris. In addition, the STTR will not interfere with the operation of satellites other than authorized by the owner/operator of the satellite and in accordance with 18 USC 1367, *Interference with the Operation of a Satellite*.

2.7.10.1. (Added) The Range Operations Officer (ROO) has authority over all space operations and support functions for the STTR. The ROO shall function as the primary focal point for operational requirements and space operations safety.

2.7.13. (Added) Identify and assist other ranges in determining how space systems will be integrated into existing infrastructures.

2.7.14. (Added) Submit STTR POM inputs to XOC for inclusion in future budget cycles.

2.7.15. (Added) Communicate and coordinate with Space Wings and other AFSPC organizations, other Major Commands (MAJCOMs), Department of Defense agencies, other military services and other federal government entities on matters relating to mission accomplishment or administrative support per applicable support agreements or letters of understanding.

2.7.16. (Added) Submit future STTR requirements to XOC each year for inclusion in future planning efforts.

2.7.17. (Added) Review and update the five-year Comprehensive Range Plan annually.

2.7.18. (Added) Submit quarterly and annual Range Activity Reports (IAW Attachment 3) to XOC.

2.7.19. (Added) In coordination with HQ AFSPC/XOTX, assist counterspace units with determining the best methods to achieve counterspace objectives for exercises and experiments.

2.7.20. (Added) Assist STTR users in creating the Counterspace Activity Approval Package (CAAP) in accordance with AFSPCI (TBD) and monitor its passage through the approval process.

2.7.21. (Added) Coordinate any request for new threat equipment and additions to STTR inventory with HQ AFSPC/XOC.

2.7.22. (Added) Meet with HQ AFSPC/INX at least semi-annually to ensure target preparations are in-line with the latest intelligence.

3.1. **Planning for Ranges.** Test and training space for the STTR includes designated air, land and sea space as well as those areas outside the atmosphere where space operations are conducted.

3.2.2.1. Units should send their Test/Training Space Needs Statement (T/TSNS) through their chain of command to HQ AFSPC/XOT.

3.3.1.2. Counterspace planners must consider the effect of actions upon other satellite users as well as the implications of international law and current National Space Policy. To ensure all aspects of international law and current space Policy are interpreted correctly, the Judge Advocate should be involved.

3.3.1.2.1.5. Provide space operations scoring and crew feedback capabilities.

3.3.1.2.1.8. (Added) Ensure consideration for whether the unit or organization to receive training or to conduct testing on the range needs to be at an established air, ground or maritime range or can operate outside of these ranges or from home base.

3.5.3. (Added) Range Users Conference. An annual range users conference will be held at each range or at an appropriate location at the host base. The minutes will be signed by the ROA and sent electronically to HQ AFSPC/XOC. Examples of topics to be addressed include ongoing programs, new user requirements, funding priorities, scheduling, targets, terrestrial range inclusion of space activity, the counterspace activity approval process, developmental versus operational testing requirements, scoring etc.

3.7. **Inputs to the Unit Comprehensive Range Plan.** The ROA is the OPR for the Comprehensive Range Plan. The Comprehensive Range Plan is a five-year plan that will be reviewed/updated annually. The plan will be organized into sections as identified in paragraphs 3.7.1 thru 3.7.6 of AFI 13-212V1, **Range Planning and Operations**. To avoid duplication, other plans supporting the Comprehensive Range Plan may be referenced in the specific sections of the plan. Plans referenced and supporting the Comprehensive Range Plan will be readily available for cross-reference by posting on the STTR website.

4.1.2. For written agreements such as Memoranda of Understanding, Host-Tenant Support Agreements and other formal agreements on range use between AFSPC and other MAJCOMs/Services, the ROA will serve as HQ AFSPC's representative to draft the agreement. The ROA will forward all written agreements to HQ AFSPC/XOC for -coordination prior to implementation.

4.1.5.1.1. (Added) Laser operation against spacecraft while operating on terrestrial ranges will comply with the above requirements. Whether or not on a terrestrial range, operations against spacecraft will comply with and ensure deconfliction through the Laser Clearinghouse IAW DoDI 3100.11(S), ***Illumination of Objects in Space by Lasers (U)***.

4.1.6.1. A working relationship will be defined via a standard Memorandum of Agreement between the ROA and the closest base communications support facility. Consideration should be given to maintenance of radio, computer and network equipment. Timelines should be established for response times to outages. Efforts should be made to be compatible with other USAF ranges.

4.1.6.1.2.1. (Added) The ROA will develop a standardized baseline for all STTR communications equipment on affiliated ranges. When possible/feasible, all operating locations (OLs) will comply with this standardized baseline.

4.3. **Range Safety.** Use Operational Risk Management (ORM) analysis procedures considering all applicable guidance in AFIs and other DoD service-specific guidelines.

4.3.13.1. (Added) A visitor's log will be maintained at the STTR and at each operating location (OL). The logs will be maintained at the range or its OLs for a minimum of 3 years.

4.3.15.1. Each ROA, in conjunction with the wing safety agency, will compile all range associated AF Forms 457, **USAF Hazard Report**, and forward to HQ AFSPC/XOC quarterly for review. The USAF Hazard Report will be used to identify any hazards found for corrective action. AFSPCHOI 91-1, ***Mishap***

Review Panel, will be used to ensure mishap events, recommendations and corrective actions are methodically addressed.

4.3.15.6. The range safety briefing shall precede entry into any Hazard Areas and shall be documented in the range visitor's log. The range safety briefing will be tailored, on an as-needed basis, to include the items listed in AFI 13-212V1, paragraph A2.1.4.

4.3.17. (Added) Unintentional Spacecraft Interference and Other Accident Procedures. In addition to guidance found in AFI 91-204, AFSPC Supplement 1, **Safety Investigations and Reports**, and AFI 51-503, **Aerospace Accident Investigations**, the ROA will inform 14AF/A3 and HQ AFSPC/XOC of any unintentional interference with spacecraft operations or any other activity that results in an accident or mishap. The ROA will also ensure that the appropriate operational chain is notified when the accident or mishap involves operational systems. Notification of range occurrences that will require HQ AFSPC/XOC involvement or assistance will be initiated telephonically, at the discretion of the ROA, as soon as practical, and will be followed up by electronic mail. Information copies of correspondence concerning range occurrences shall be provided to HQ AFSPC/XOCD. HQ AFSPC/XOC will be notified by message or electronic/standard mail when 14AF or the ROA convenes a formal investigation concerning range incidents. HQ AFSPC/XOC will provide assistance to the investigation.

5.2.1. Requests for new/additional space threat systems will be forwarded to HQ AFSPC/XOC.

5.2.2. Forward deactivation/decommission and final disposition requests for space threat emitters and simulators to HQ AFSPC/XOC.

5.3. **Radio Frequency Spectrum Issues.** Refer to AFI 10-707, AFSPC Supplement 1, **Spectrum Interference Resolution Program**, for additional details on reporting spectrum interference. The AFSPC lead for radio frequency spectrum issues is HQ AFSPC/LCAS.

5.5. **Conduct of Electronic Attack and Chaff Procedures.** AFSPC organizations will also comply with the provisions of DODI S-3100.15(S), **Space Control (U)**, AF Supplement and other classified documents as applicable.

6.1.1. ROA will ensure a monthly Range Activity Report is compiled. Each range operations officer/contract range supervisor will maintain accurate records of range operation and maintenance time plus closures and cancellations to assist in making accurate monthly reports. The RM/contract range supervisor will submit the completed form to the ROA.

6.1.1.4. Transmit classified reports to HQ AFSPC/XOC via appropriate means.

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References******Legislative***

18 U.S.C. 1367, *Interference with the Operation of a Satellite*

US Government Agency Publications

DoD Instruction 3100.11(S), *Illumination of Objects in Space by Lasers (U)*

DoD Instruction S-3100.15(S), *Space Control (U)*

Air Force Publications

AFI 10-601, *Mission Needs and Operational Requirements Guidance and Procedures*

AFI 10-707, AFSPC Supplement 1, *Spectrum Interference Resolution Program*

AFMAN 23-110, *USAF Supply Manual*

AFI 51-503, *Aerospace Accident Investigations*

AFSPCHOI 91-1, *Mishap Review Panel*

AFI 91-204, AFSPC Supplement 1, *Safety Investigations and Reports*

AFSPCI (TBD), *Counterspace Activity Approval Package Instruction*

Abbreviations and Acronyms

AFSPC—Air Force Space Command

CAAP—Counterspace Activity Approval Package

MMSOC—Multi-mission Space Operation Center

OL—Operating Location

SOCTF—Space Operations Combined Task Force

STTR—Space Test and Training Range

SWC—Space Warfare Center

Attachment 4 (Added)**RANGE OPERATIONS OFFICER (ROO) DUTIES AND QUALIFICATIONS****A4.1. (Added) Range Operations Officer (ROO).****Table A4.1. (Added) Range Operations Officer (ROO) Duties and Qualifications.**

Duties and Qualifications	References
Will supervise daily range operations.	AFI 13-212V1, para 2.7.10
Will supervise daily range planning.	AFI 13-212V1, para 2.7.10
Will supervise daily range maintenance.	AFI 13-212V1, para 2.7.10
Has authority over all space operations and support functions on the range.	AFI 13-212V1, para 2.7.10
Has authority over all space operations and support functions for the STTR.	AFI 13-212V1_AFSPC SUP 1, para 2.7.10.1
The ROO will serve as the central focal point for operational requirements and safety.	AFI 13-212V1_AFSPC SUP 1, para 2.7.10.1
Will be responsible for all range maintenance and day-to-day operating activities.	AFI 13-212V1, Attachment 1 (<i>Terms</i>), Range Operations Officer
The ROO will interface with operations personnel and other base agencies.	AFI 13-212V1, Attachment 1 (<i>Terms</i>), Range Operations Officer
Will be qualified as a RCO.	AFI 13-212V1, Attachment 1 (<i>Terms</i>), Range Operations Officer
Will be subordinate to the RCO during live-fire operations on the range for matters of safety.	AFI 13-212V1, Attachment 1 (<i>Terms</i>), Range Operations Officer

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